



**B. J. VANIJYA MAHAVIDYALAYA**

**(Autonomous)**

**(Grant-in-Aid)**

**(Affiliated to Sardar Patel University)**

**Vallabh Vidyanagar- 388 120, Dist. Anand, Gujarat, India**

**Accredited with CGPA of 2.78 on four-point scale at B++ Grade by NAAC**

**Syllabus as per the NEP 2020 with effect from December - 2024**

**Bachelor of Business Administration (General)**

**Semester – II**

<b>Course Code</b>	<b>UM02IDBBA01</b>	<b>Title of the Course</b>	<b>Business Mathematics - II</b>
<b>Total Credits of the Course</b>	<b>04</b>	<b>Hours per week</b>	<b>04</b>

<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1) To understand the basic concepts of Mathematics and Statistics.</li> <li>2) To develop proficiency in the application to solve business problems by various Mathematical and Statistical Techniques.</li> <li>3) To understand the important role of Mathematical and Statistical techniques plays in all facets of the business world.</li> <li>4) This course aims to furnish the students with the Mathematical and Statistical foundation required for business management and to know the function of Mathematics and Statistics in the Management field.</li> </ol>
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<b>Course Content</b>		
<b>Unit No.</b>	<b>Description</b>	<b>Weightage (%)</b>
<b>1)</b>	<b>Linear Programming Problem:</b> LPP: Meaning, Mathematical form of LPP, limitations of LP, uses of LP, Definitions: Solution, constraints, BFS, FS, objective functions solution of LPP by Graphical Method. Examples based on Graphical method.	<b>25%</b>
<b>2)</b>	<b>Transportation Problem:</b> Meaning of Transportation Problem with its merits and demerits. Methods of solving Transportation problem. N-W corner rule, matrix Minima Method, Vogel's Approximation Method with unbalanced Transportation problem and practical applications of these methods. U	<b>25%</b>
<b>3)</b>	<b>Assignment Problems (AP) and Replacement Problems:</b> Meaning of Assignment Problem, Mathematical form of Assignment problems, Hungarian method for solving Assignment problems in the cases of maximization and minimization problems, Meaning of Replacement problem, Examples of Replacement problems.	<b>25%</b>



<b>4)</b>	<b>Derivatives and Applications of Derivatives:</b> Definition of derivative, Derivatives of explicit, composite functions, Derivatives of exponential and arithmetic functions, working rules of differentiation (without proof), Higher order derivatives, maxima and minima of a function in simple polynomial form.	<b>25%</b>
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<b>Teaching-Learning Methodology</b>	The course would be taught /learnt through ICT (e.g. Power Point Presentation, Audio-Visual Presentation), Lectures, Group Discussions, Quizzes, Assignments, Case Study and Browsing E- Resources.
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**Internal and External Examination Evaluation**

Sr. No.	Details of the Evaluation / Exam Pattern	50 Marks (%)	25 Marks (%)
1	<b>Class Test (at least one)</b>	<b>15 (30%)</b>	<b>10 (40%)</b>
2	<b>Quiz (at least one)</b>	<b>15 (30%)</b>	<b>05 (20%)</b>
3	<b>Active Learning</b>	<b>05 (10%)</b>	----
4	<b>Home Assignment</b>	<b>05 (10%)</b>	<b>05 (20%)</b>
5	<b>Class Assignment</b>	<b>05 (10%)</b>	----
6	<b>Attendance</b>	<b>05 (10%)</b>	<b>05 (20%)</b>
<b>Total Internal (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>
<b>Final Examination (%)</b>		<b>50 (100%)</b>	<b>25 (100%)</b>

Sr. No.	Course Outcomes: Having completed this course, the learner will be able to
1)	To have a proper understanding of Statistical and Mathematical applications in Economics, Finance, Commerce and Management Integrate international business concepts with functioning of global trade.
2)	Convert the problem into a Mathematical model and solve it manually.
3)	Student should demonstrate proficiency in calculating and interpreting determinants, using them in solving systems of linear equations, and applying them to model real-world business scenarios.
4)	Understand and critically discuss the issues surrounding sampling and significance.

Sr. No.	Suggested References:
1)	Sancheti & Kapoor: Statistic: Theory, Methods and Applications, Sultan Chand & Sons, New Delhi.
2)	Kapoor, V. K.: Business Mathematics, Sultan Chand and Sons, New Delhi.
3)	Soni, R. S.: Business Mathematics, Pitamber Publishing House.
4)	H. A. Taha, Operations Research Macmillan Publishing Co. Inc.
5)	J. K. Sharma: O. R. Theory and Applications, Macmillan India Ltd.

6)	A.J. Patel, H.S. Doshi: Operations Research, Himalaya Publishing House.
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Sr. No.	On-Line Resources available that can be used as Reference Material
1)	<a href="https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/157">https://ugcmoocs.inflibnet.ac.in/view_module_ug.php/157</a>
2)	<a href="https://youtu.be/86NwKBcOlow">https://youtu.be/86NwKBcOlow</a>
3)	<a href="https://youtu.be/Ow3XWYnPgSM">https://youtu.be/Ow3XWYnPgSM</a>
4)	<a href="https://www.youtube.com/live/8npk04bd2XA?feature=share">https://www.youtube.com/live/8npk04bd2XA?feature=share</a>